

CLAIMS

What Is Claimed Is:

- 1 1. A flexible surface lighting system comprising:
 - 2 a base having a first hardness and a channel having opposing sides and a
 - 3 mount surface;
 - 4 a first flange and a second flange having a second hardness, attached to
 - 5 opposing sides of the channel on the base; and,
 - 6 a lens inserted into the channel and between the first and second flanges.
- 1 2. The flexible surface lighting system of Claim 1 further
- 2 comprising a lens buffer attached to the mount surface and supporting the lens.
- 1 3. The flexible surface lighting system of Claim 2 where the lens
- 2 buffer comprises a third hardness.
- 1 4. The flexible surface lighting system of Claim 1 where the first
- 2 hardness is at least 94 Duro on the Shore OO scale.
- 1 5. The flexible surface lighting system of Claim 1 where the second
- 2 hardness is less than the first hardness.
- 1 6. A flexible surface lighting system comprising:
 - 2 a base extrusion of polyvinyl chloride having a first hardness and a
 - 3 channel having opposing sides and a mount surface;
 - 4 a first flange extrusion and a second flange extrusion of polyvinyl
 - 5 chloride having a second hardness, attached to opposing sides of the channel on
 - 6 the base extrusion; and,
 - 7 a lens inserted into the channel and between the first and second flange
 - 8 extrusions.

1 7. The flexible surface lighting system of Claim 6 where the first
2 hardness is from 89-98 Duro on the Shore OO scale.

1 8. The flexible surface lighting system of Claim 7 where the second
2 hardness is less than the first hardness.

1 9. The flexible surface lighting system of Claim 6 further
2 comprising a butt seal inserted in the channel.

1 10. The flexible surface lighting system of Claim 6 where the base
2 extrusion, first flange extrusion and second flange extrusion are co-extruded.

1 11. A flexible surface lighting system comprising:
2 a base extrusion having a first hardness and a channel having opposing
3 sides and a mount surface;
4 at least two electrical leads in the channel;
5 a first flange extrusion and a second flange extrusion of polyvinyl
6 chloride having a second hardness, attached to opposing sides of the channel on
7 the base extrusion;
8 a lens inserted into the channel over the at least two leads and between
9 the first and second flange extrusions; and,
10 an LED module comprising a circuit board secured to a module base;
11 where the LED module is attached to at least two electrical leads in the channel
12 below the lens; the circuit board having an LED and at least two contact teeth
13 whereby each contact tooth makes electrical contact with one of the at least two
14 electrical leads.

1 12. The flexible surface lighting system of Claim 11 where the at
2 least two electrical leads further comprise a non-conductive sheath and where
3 each contact tooth pierces the non-conductive sheath to make electrical contact
4 with one of the at least two electrical leads.

1 13. The flexible surface lighting system of Claim 11 where a gasket
2 with a thickness covers a side of the circuit board and where the at least two
3 contact teeth traverse the thickness of the gasket to make electrical contact with
4 the at least two electrical leads.

1 14. The flexible surface lighting system of Claim 11 where the
2 module base further comprises a set of snap tabs whereby the circuit board is
3 secured to the module base by snapping the circuit board onto the base by the
4 set of snap tabs.

1 15. The flexible surface lighting system of Claim 14 where the circuit
2 board further comprises a first support length and a second support length;
3 where the first support length differs in length from the second support length;
4 and where the set of snap tabs further comprise a first set of snap tabs separated
5 by a first distance corresponding to the first support length and a second set of
6 snap tabs separated by a second distance corresponding to the second support
7 length.